

Standard Operating Procedure

06 - Entering New Equipment & New Preventive Maintenance [PM]



A. Purpose

This process documents the steps taken to facilitate the entry of new Equipment and new Preventive Maintenance procedure(s).

B. Responsibilities

The following Departments participate in this process and are tasked with the following responsibilities:

➤ **Maintenance Manager**

The Maintenance Manager is responsible for the entry of new Facility identified equipment and the creation of the PM program for the equipment.

➤ **DCAM**

DCAM is responsible for the entry of new DCAM major capital equipment and the associated PM program for the equipment.

C. Process Overview

Maintenance Manager & DCAM

Step 1: New equipment is identified.

Step 2: New PM is identified.

Step 3: New equipment record is created.

Step 4: New equipment PM record is created.

Step 5: If necessary, PM Groups are defined.

Step 6: If necessary, PM route is defined.

Step 7: Equipment is associated to the PM.

Step 8: PM scheduling criteria is defined.

Step 9: Initial start date for the PM is determined.

Step 10: A determination is made whether the work will be performed.

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Step 11: PM Work Order will be postponed, to a later date.

Step 12: Scheduled Work Order is initiated.

Step 13: Work is performed.

D. Process Steps

Step 1: New equipment is identified.

Step 2: New PM is identified.

Step 3: New equipment record is created

- Access the Equipment Form by clicking on the form in the Navigator.
(EQUIPMENT/EQUIPMENT)
 - ❑ Enter Equipment ID (15 character unique ID) (***) *Should we provide guidelines for ID convention? ***)*
 - ❑ Enter Nomenclature (64 character description of equipment)
 - ❑ Enter Parent Equipment ID, if applicable (Use the List of Values, CTRL/L if needed)

Manufacturer Information

- ❑ Enter Mfr No. (Use the List of Values, CTRL/L if needed)
- ❑ Enter Mfr. Part No. (30 character free form field)
- ❑ Enter Model (25 character free form field)
- ❑ Enter Serial No. (25 character free form field)

Location Information

- ❑ Enter Site (Use the List of Values, CTRL/L if needed)
- ❑ Enter Building (Use the List of Values, CTRL/L if needed)
- ❑ Enter Floor (Use the List of Values, CTRL/L if needed)
- ❑ Enter Room (Use the List of Values, CTRL/L if needed)

Description Information

- ❑ Enter long description
- ❑ Enter Keyword (Use the List of Values, CTRL/L if needed), notify CAMIS Database Administrator at DCAM if new Keyword is needed

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- ❑ Enter Type (*Use the List of Values, CTRL/L if needed*), notify CAMIS Database Administrator at DCAM if new Equipment Type is needed
Below is a list of examples:
 - ELEC DIST (Electrical Distribution)
 - HVAC (Heating, Ventilation and Air Conditioning)
 - BLDG SEC (Building Security)
 - DOM WATER (Domestic Water)
 - FIRE PROT (Fire Protection)
 - LIGHTING
 - NAT GAS (Natural Gas)
 - SAN SEWER (Sanitary Sewer)
 - STORM SWR (Storm Sewer)
 - TELCOM
 - VEHICLES
- ❑ Enter Asset No (*Optional*)
- ❑ Enter Equip Group (*Use the List of Values, CTRL/L if needed*), notify CAMIS Database Administrator at DCAM if new Equipment Group is needed
- ❑ Enter Equip. Category (*Use the List of Values, CTRL/L if needed*)
- ❑ Enter PM Group, if established (*Use the List of Values, CTRL/L if needed*)
- ❑ Refer to Step 5 to define a new PM Group

General Information

- ❑ Enter Status (*Use the List of Values, CTRL/L if needed*)
 - IN SERVICE
 - OFF-LINE
 - SCRAPPED
 - SETUP
 - SURPLUSED
- ❑ Enter Service Guide (*30 character field for the location or address of Service Guide*)
- ❑ Enter Criticality (*2 position number field*)
- ❑ Enter Rental Type (*Use the List of Values, CTRL/L if needed*)
- ❑ Enter Rental Rate (*10 characters can be entered*)

Billing Information

- Access the Billing Window by clicking on the [BILLING] button from the Equipment Form
 - ❑ Select Billing Method

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- ACTUALS (Account Numbers required)
- ESTIMATE (Account Numbers required)
- NO CHARGE (Account Numbers not required)
- ❑ Select Markup Code (Use List of Values, CTRL/L if needed)
- ❑ Select the Account Numbers to Charge (Use the List of Values, CTRL/L)
- ❑ If Account Numbers are not available, new values can be entered. Please contact your local Business Coordinator
 - Account Number: Enter Account Number up to 8 characters, (Use the List of Values, CTRL/L if needed)
 - Subsidiary: Enter Subsidiary up to 2 characters, (Use the List of Values, CTRL/L if needed)
 - Object Code: Enter Object Code up to 3 characters, (Use the List of Values, CTRL/L if needed)
 - Activity Code (not mandatory): Enter Activity Code up to 4 characters, (Use the List of Values, CTRL/L if needed)
- Close Billing Window by clicking on X in upper right hand corner.

If necessary, establish specifications for the equipment.

- Specifications are defined for equipment as either nominal or textual. The specifications are used for the condition based PM.
- Access the Specifications Window by clicking on [SPECIFICATIONS] tab from the Equipment Form
 - ❑ Enter Specification Type (Use the List of Values, CTRL/L if needed)
 - ❑ Enter Condition Type (Use the List of Values, CTRL/L if needed)
 - ❑ Enter UM (Unit of Measure) (Use the List of Values, CTRL/L if needed)
 - ❑ Enter Lower Limit (numeric specification, 10 digits)
 - ❑ Enter Nominal Limit (numeric specification, 10 digits)
 - ❑ Enter Upper Limit (numeric specification, 10 digits)or
 - ❑ Enter Textual specification (text specification, 35 characters)

Acquisition Information, if applicable

- Access the Acquisition Window by clicking on the [ACQUISITION] tab from the Equipment Form
 - ❑ Enter Date Acquired
 - ❑ Enter Cost
 - ❑ Enter PV (to reference Payment Voucher Number)
 - ❑ Enter Vendor ID
 - ❑ Enter Vendor Name

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- ❑ Enter Comments (enter PO information in the comments field)

Warranty Information, if applicable

- ❑ Enter Expiration Date
- ❑ Enter Usage Expiration (*Miles, Hours, etc.*)
- ❑ Enter PV (*to reference Payment Voucher Number*)
- ❑ Enter Vendor ID
- ❑ Enter Vendor Name
- ❑ Enter Comments (enter PO information in the comments field)
- ❑ If necessary, Check the checkbox to alert user when entering Service Request
- ❑ If necessary, Check the checkbox to alert user when entering Project Request
- Save the Equipment record (*CTRL/U*)

Step 4: New equipment PM record is created.

- Access the Preventive Maintenance Form by clicking on the form in the Navigator. (*PREVENTIVE MAINTENANCE /PREVENTIVE MAINTENANCE*)
 - ❑ PM number will be assigned automatically by CAMIS when record is saved
 - ❑ Enter description of work (*64 characters can be entered*)
 - ❑ Enter Parent PM, if applicable (*Use the List of Values, CTRL/L if needed*)
 - ❑ Enter Superseded By, if applicable (*Use the List of Values, CTRL/L if needed*)
 - ❑ Enter remaining information:
 - PM Information
 - Status (*Use List of Values, CTRL/L if needed*)
 - ◆ IN SERVICE
 - ◆ OFF-LINE
 - ◆ SCRAPPED
 - ◆ SETUP
 - ◆ SURPLUSED
 - Asset Type (*Use List of Values, CTRL/L if needed*)
 - ◆ EQUIPMENT
 - Category (*Use List of Values, CTRL/L if needed*)
 - ◆ ACCREDITN (accreditation of prisons/hospitals)
 - ◆ ENVIRONMNT
 - ◆ FIRE SAFETY
 - ◆ HAZ MAT

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- ◆ INSPECTION
- ◆ PREVENTIVE
- ◆ SAFETY
- ◆ WARRANTY (based on mfr. Specifications)
- Manufacturer (*Use List of Values, CTRL/L if needed*)
- Outage Class (*Use List of Values, CTRL/L if needed*)
 - ◆ EQU DOWN
 - ◆ EQUIP UP
- Work Order Information
 - Assigned To (*Use List of Values, CTRL/L if needed*)
 - (Maintenance) Type (*Use List of Values, CTRL/L if needed*)
 - ◆ ADMIN
 - ◆ CORRECTIVE
 - ◆ CUST SERV
 - ◆ FIRE SFTY.
 - ◆ INSPECTION
 - ◆ LIFE SFTY.
 - ◆ PREVENTIVE
 - ◆ REGULATORY
 - ◆ RENOVATION
 - ◆ ROUTINE
 - Method (*Use List of Values, CTRL/L if needed*)
 - ◆ CONTRACT
 - ◆ IN HOUSE
 - Priority – Maintenance Work Orders
 - ◆ 1 W. O Emerg (0 days)
 - ◆ 2 W. O High (1 day)
 - ◆ 3 W. O. Med (3 days)
 - ◆ 4 W. O. Low (10 days)
- Lead Days (*Optional*)
 - Work (*Lead days necessary before PM is due, for work to be performed. CAMIS defaults to 0.*)
 - Schedule (*Lead days necessary before start date of PM, for Scheduling. CAMIS defaults to 1.*)

Labor

- Access the Labor Window by clicking on the [LABOR] button from the PM Form

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- ❑ Primary Labor
 - Enter Crew (*Use List of Values, CTRL/L if needed*)
 - Enter Size
 - Enter Craft = MAINT
 - Enter Est Hours
- ❑ Secondary Labor, if applicable
 - Enter Crew (*Use List of Values, CTRL/L if needed*)
 - Enter Size
 - Enter Craft = MAINT
 - Enter Est Hours
 - Enter Task List
- Close the Labor Window by clicking on [OK] button

Tools

- Access the Tools Window by clicking on the [TOOLS] button from the PM Form
 - ❑ Enter Tool number (*10 character free form field*)
 - ❑ Enter Description (*55 character free form field*)
 - ❑ Enter Qty
 - ❑ Enter U/M
- Close the Tools Window by clicking on the X in upper right hand corner

Billing

- Access the Billing Window by clicking on the [BILLING] button from the PM Form
 - ❑ Select the Account Numbers to Charge (*Use the List of Values, CTRL/L*)
 - ❑ If Account Numbers are not available, new values can be entered. Please contact your local Business Coordinator
 - Account Number: Enter Account Number up to 8 characters, (*Use the List of Values, CTRL/L if needed*)
 - Subsidiary: Enter Subsidiary up to 2 characters, (*Use the List of Values, CTRL/L if needed*)
 - Object Code: Enter Object Code up to 3 characters, (*Use the List of Values, CTRL/L if needed*)
 - Activity Code (not mandatory): Enter Activity Code up to 4 characters, (*Use the List of Values, CTRL/L if needed*)
 - ❑ Select Markup Code (*Use List of Values, CTRL/L if needed*)
 - ❑ Select Billing Method
 - ACTUALS (*Account Numbers required*)

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- ESTIMATE (Account Numbers required)
- NO CHARGE (Account Numbers not required)
- Close the Billing Window by clicking on [OK] button

Task List

- Access the Task List by clicking in the Task List block
 - Enter the necessary steps to perform the work
- Save the changes (CTRL/U)
- Close the PM form by clicking on the X in upper right hand corner

Step 5: If necessary, PM Groups are defined.

- PM Groups are used to link several PM procedures together for assignment to equipment. Once the PM Group is established, it can be seen and shared statewide
- Access PM Group Form by clicking on the form in the Navigator.
(PREVENTIVE MAINTENANCE/PM GROUPS)
 - Enter PM Group ID (10 characters can be entered) (** SHOULD WE PROVIDE GUIDELINE FOR NAMEING CONVENTION **)
 - Enter PM Group description (64 characters can be entered)
 - Click on [PMs] button to select PMs
 - Enter PM Number (Use the List of Values, CTRL/L if needed)
 - Enter Query Mode (F11)
 - Enter Query (based on PM Number, Description, Category, Type, Method or Mfr)
 - Execute Query (CTRL/F11)
 - Select PM and click on [OK] button to close PM list form
 - Repeat to define additional PMs to the group
- Close the Preventive Maintenance form by clicking on the X in upper right hand corner
- Close the PM Group Form by clicking on the X in upper right hand corner

Step 6: If necessary, PM route is defined.

- PM Routes allow the user to establish a series of PMs to be performed together or a single PM to be performed on multiple pieces of equipment at the same time. The PM Route creates a single Work Order listing each piece of equipment to be maintained on the route. A PM Route will not appear on the equipment record under the PM button.

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- Access the PM Route Form by clicking on the form in the Navigator.
(EQUIPMENT/ROUTE)
 - PM Route** *(Establish a series of PMs to be performed together or a single PM to be performed on multiple pieces of equipment at the same time)*
 - ❑ Enter Route ID (15 characters can be entered)
 - ❑ Enter Route Description (64 characters can be entered)
 - ❑ Enter Site (Use the List of Values, CTRL/L if needed)
 - ❑ Enter Equipment ID (Use the List of Values, CTRL/L if needed)
 - Enter Query Mode
 - Enter Query (based on Keyword, Manufacturer, Nomenclature, or Equipment ID)
 - Execute Query
 - Select Equipment
 - ❑ Click on [OK] to close the Equipment Search form
 - ❑ Repeat for each Equipment ID to be included in the route
 - Access the Preventive Maintenance Window by clicking on the [PM] tab from the **Equipment** Route Form
 - ❑ Enter the PM number for each PM to be performed (Use the List of Values, CTRL/L if needed)
 - Enter Query Mode (F11)
 - Enter Query (based on PM Number, Description, Category, Type, Method or Mfr.
 - Execute Query
 - ❑ Select PM and click on [OK] button to close PM list form
 - ❑ Repeat for each PM to be included in the route
 - ❑ Refer to Step 8 for defining the scheduling criteria.
 - Close PM Route Form by clicking on the X in the upper right hand corner.

Step 7: Equipment is associated to the PM

- Access the Equipment Form by clicking on the form in the Navigator.
(EQUIPMENT/EQUIPMENT)
 - Enter Query Mode
 - Enter Query (based on Keyword, Manufacturer, Nomenclature, or Equipment ID)
 - Execute Query
 - ❑ Enter PM Group in the General Information section, if applicable (Use the List of Values, CTRL/L if needed)

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- Access the PM window by clicking on the [PMs] tab from the Equipment Form
 - ❑ Enter the PM Number (*Use the List of Values, CTRL/L if needed*)
 - Enter Query (*based on PM Number, Description, Category, Type, Method or Mfr.*)
 - Execute Query
 - Select PM and click on [OK] button to close PM list form

Step 8: PM scheduling criteria is defined.

Criteria

- Access the Criteria Window by clicking on the [CRITERIA] button from the PM Window, on the Equipment Form
- Determine if the PM will be performed on a Time Based, Completion or Fixed Date Based, Usage Based, Condition Based or Seasonal Based schedule.
- When you enter this Window, you are in the Scheduling function.

Schedule Tab

Time Based

- ❑ Enter the Interval for standard and override, if necessary (*Daily, Weekly, Monthly, Yearly or None*)
- ❑ Enter the number for standard and override, if necessary (*frequency for the interval*)

Completion or Fixed Date Based

- ❑ Select date for PM to be Based On
 - Last completion date (*PM Work Order will not be generated unless previous PM Work Order is closed*)
 - Fixed Due Date (*PM Work Order will automatically be generated on a particular date*)

Usage Based

- ❑ Enter Usage Units (*Miles, Hours, etc*)
- ❑ Enter Usage Number (*usage for the units*)

or

- ❑ Estimated Interval (*Daily, Weekly, Monthly, Yearly or None*)
- ❑ Enter Number (*frequency for the interval*)

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Condition Based

- Enter Condition Type (*Use the List of Values, CTRL/L if needed*)
- Enter Unit of Measure (*Use the List of Values, CTRL/L if needed*)
- Enter Priority (*Use the List of Values, CTRL/L if needed*)
- Enter Scheduling Criteria (*below or above*)

Seasonal Based

- ❑ Enter Seasonal Start Date (*PM Work Order generation will begin*)
- ❑ Enter Seasonal End Date (*PM Work Order generation will end*)

Options Tab

Account

- Access the Scheduling Options Window by clicking on the [OPTIONS] tab from the Scheduling Criteria Window
 - ❑ Select the Account Code source
 - Get From PM
 - Get From Equipment
 - ❑ Select the Account Numbers to Charge (*Use the List of Values, CTRL/L*)
 - ❑ If Account Numbers are not available, new values can be entered. Please contact your local Business Coordinator
 - Account Number: Enter Account Number up to 8 characters, (*Use the List of Values, CTRL/L if needed*)
 - Subsidiary: Enter Subsidiary up to 2 characters, (*Use the List of Values, CTRL/L if needed*)
 - Object Code: Enter Object Code up to 3 characters, (*Use the List of Values, CTRL/L if needed*)
 - Activity Code (not mandatory): Enter Activity Code up to 4 characters, (*Use the List of Values, CTRL/L if needed*)

Holidays

- ❑ Select Holiday Calendar (*if needed*)

Valid Work Days

- ❑ Select the days for scheduling PM work

Valid Weeks

- ❑ Select the weeks for scheduling PM work
- ❑ Select the Partial or Full week definition

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Override Tab

- Access the Override Window by clicking on [OVERRIDE] tab from the Scheduling Criteria Window
 - ❑ Select Crew override option (*Standard or Override*)
 - ❑ Select Craft override option (*Standard or Override*)
 - ❑ Select Assigned To override option (*Standard or Override*)
 - ❑ Select Estimated Hours override option (*Standard or Override*)
 - ❑ Select Crew Size override option (*Standard or Override*)

- ❑ Select Secondary Labor checkbox option, if applicable, to include the following:
 - Crew
 - Craft
 - Estimated Hours
 - Crew Size
 - Task List

Task List Tab

- Access the Task List Window by clicking on [TASK LIST] tab from the Scheduling Criteria Window
 - ❑ Enter Standard PM Task List, if applicable
 - ❑ Enter Additional Tasks, if applicable

Step 9: Initial start date for the PM is determined

- **Access the PM Window by clicking on [PM] tab from the Equipment Form.**
 - ❑ Enter NEXT PM date to initiate the first PM on equipment
 - ❑ Do not enter NEXT PM date if PM will be postponed

Step 10: A determination is made whether the work will be performed

- ❑ [YES] Equipment PM is scheduled, creating a Work Order (Go to Step 12)
- ❑ [NO] Equipment PM is postponed (Go to Step 11)

Step 11: PM Work Order is postponed, to a later date

- Review the postponed equipment PMs
 - ❑ If Equipment PM is ready to be performed, Repeat Steps 9 & 13; otherwise do not enter the NEXT PM date

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Step 12: Scheduled Work Order is initiated

- Access the Equipment PM Scheduling Form by clicking on the form in the Navigator. (*PREVENTIVE MAINTENANCE/EQUIPMENT PMs*)
 - ❑ Enter schedule week (*Use the < > to adjust the scheduled week*)
 - ❑ Enter Site
 - ❑ Enter Crew
 - ❑ Enter Priority (*optional*)
 - ❑ Click on the [SCHEDULE] button to schedule the PMs from the Equipment PM Scheduling Form
- Close the Equipment PM scheduling form by clicking on the X in the upper right hand corner

Step 13: Work is performed.

- Work is managed through the Managing Work Order process.

E. Document Control

Questions, suggestions, and corrections should be forwarded to CAMIS.helpdesk@state.ma.us.

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F. Process Flow

